

What is claimed is:

1. An image forming device comprising:

a photosensitive drum adapted for supporting a static-electric latent image on its surface;

5 a developing roller adapted to bear developer, the developing roller being disposed in confrontation and in contact with the surface of the photosensitive drum;

a photosensitive drum driver that drives rotation of the photosensitive drum;

10 a developing roller driver that drives rotation of the developing roller;

a drive controller that controls the developing roller driver to one of stop driving the developing roller and maintain the developing roller in a non-rotating condition, while controlling the photosensitive drum driver to drive the photosensitive drum to rotate.

2. An image forming device as claimed in claim 1, wherein the developer is a polymerized toner produced by polymerizing a monomer that has polymerizing properties.

20 3. An image forming device as claimed in claim 2, further comprising:

a visible image transfer unit that transfers the visible image from the photosensitive drum onto another medium; and

25 a toner cleaning member in contact with the

photosensitive drum and for removing residual toner that remains on the photosensitive drum after the visible image transfer unit transfers the visible image from the photosensitive drum onto the other medium.

5 4. An image forming device as claimed in claim 1, wherein the developing roller includes:

a resilient roller portion; and

10 a surface coat layer covering the roller portion and having a hardness greater than hardness of the roller portion.

5. An image forming device as claimed in claim 1, wherein the developer has a charge-to-mass ratio Q/M having an absolute value of 10 micro coulombs /gram or greater.

15 6. An image forming device as claimed in claim 1, wherein the photosensitive drum has a photosensitive layer formed from a dispersion-type, single layer, organic photosensitive material.

7. An image forming device as claimed in claim 1 further comprising:

20 a charge unit that charges the surface of the photosensitive drum to a uniform charge;

25 an exposure unit that exposes the uniformly-charged surface of the photosensitive drum to form the static-electric latent image on the surface of the photosensitive drum; and

a developing bias application unit that applies a developing bias to the developing roller during image forming periods,

5 wherein the drive controller, during the portion of the non-image forming period when the drive controller controls the developing roller driver to stop driving and the photosensitive drum driver to drive, controls:

the charge unit to uniformly charge the surface portion of the photosensitive drum;

10 the exposure unit to not perform exposing operations; and

the developing bias application unit to apply a bias to the developing roller the same as the developing bias applied during image forming periods.

15 8. An image forming device as claimed in claim 1 further comprising a rotation prevention mechanism that blocks rotation of the developing roller while the drive controller controls the developing roller driver to stop driving the developing roller.

20 9. An image forming device as claimed in claim 1, further comprising a visible image transfer unit that transfers the visible image from the photosensitive drum onto another medium, the drive controller controlling, during a non-image forming period after the visible image transfer unit transfers the visible image from the

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photosensitive drum, the developing roller driver to stop driving first and then the photosensitive drum driver to stop driving.

5 10. An image forming device as claimed in claim 9, wherein the drive controller controls, from a condition wherein both the photosensitive drum driver and the developing roller driver are driving, the developing roller driver to stop driving, then the developing roller driver to again drive, then the photosensitive drum driver to stop driving and simultaneously (or) afterward controls the
10 developing roller driver to stop driving.

11. An image forming device as claimed in claim 1 further comprising a visible image transfer unit that transfers the visible image from the photosensitive drum
15 onto another medium, the drive controller controlling, during a non-image forming period before the visible image transfer unit transfers the visible image from the photosensitive drum onto the medium, the photosensitive drum driver to start driving first and then the developing roller
20 driver to start driving.

12. An image forming device as claimed in claim 1, further comprising a contact/separating unit that selectively brings the photosensitive drum and the developing roller into contact with each other and separates
25 the photosensitive drum and the developing roller.

13. An image forming device as claimed in claim 12,
wherein the drive controller controls, from a condition
wherein the contact/separating unit has the photosensitive
drum and the developing roller in contact with each other
5 and both of the photosensitive drum driver and the
developing roller driver are driving, the developing roller
drive to stop driving, and then, (after the photosensitive
drum rotates at least once while the developing roller is
stopped, controls the contact/separating unit to separate
10 the photosensitive drum and the developing roller from each
other.)

14. An image forming device as claimed in claim 12,
wherein the drive controller controls, from a condition
wherein the contact/separating unit has the photosensitive
15 drum and the developing roller separated from each other and
neither of the photosensitive drum driver and the developing
roller driver are driving, the photosensitive drum drive to
drive, then the contact/separating unit to bring the
photosensitive drum and the developing roller into contact
20 with each other, and then, (after the photosensitive drum
rotates at least once while the photosensitive drum and the
developing roller are in contact with each other, controls
the developing roller driver to drive.)

15. An image forming device as claimed in claim 1,
25 further comprising a plurality of photosensitive drums and

dev loping rollers for producing a plurality of image colors.

16. An image forming device as claimed in claim 1,
wherein the developing roller is adapted to bear non-
magnetic, single component developer for developing the
5 static-electric latent image on the photosensitive drum into
a visible image.

17. An image forming device as claimed in claim 1,
wherein the drive controller controls the developing roller
driver (to one of) stop driving the developing roller and
10 maintain the developing roller in a non-rotating condition
during at least a portion of a non-image forming period in
an image formation process.

18. A method of removing film from the surface of a
photosensitive drum that is in contact with a developing
15 roller, the method comprising:

starting rotation of the photosensitive drum while the
developing roller is maintained in a non-rotating condition
so that surface of the photosensitive drum rubs against the
developing roller; and

20 subsequently starting rotation of the developing
roller.

19. A method as claimed in claim 18, wherein the
rotation of the photosensitive drum is started in accordance
with a command to start an image formation process.

25 20. A method as claimed in claim 18, further

comprising subsequently stopping rotation of the developing roller into a non-rotating condition so that surface of the still-rotating photosensitive drum rubs against the developing roller.

5 21. A method as claimed in claim 20, wherein the step of subsequently stopping rotation of the developing roller is performed during a non-image forming period after a rear edge of a last sheet passes through a nip portion between the photosensitive drum and a transfer roller.

10 22. A method as claimed in claim 20, further comprising a step of separating the photosensitive drum and the developing roller from each other that is performed one of simultaneously with and prior to the step of subsequently stopping rotation of the developing roller.

15 23. A method as claimed in claim 18, wherein the step of subsequently starting rotation of the developing roller is performed during a non-image forming period before a front edge of a first sheet passes through a nip portion between the photosensitive drum and a transfer roller.

20 24. A method of removing film from the surface of a photosensitive drum that is in contact with a developing roller, the method comprising:

starting rotation of the photosensitive drum and the developing roller substantially simultaneously; and

25 subsequently stopping rotation of the developing

roller to bring the developing roller into a non-rotating condition while maintaining the photosensitive drum in a rotating condition so that surface of the photosensitive drum rubs against the developing roller.

5 25. A method as claimed in claim 24, wherein the step of subsequently stopping rotation of the developing roller is performed during a non-image forming period after a rear edge of a last sheet passes through a nip portion between the photosensitive drum and a transfer roller.

10 26. A method as claimed in claim 24, further comprising:

 again starting rotation of the developing roller after the step of subsequently stopping rotation of the developing roller; and

15 subsequently simultaneously stopping rotation of the photosensitive drum and the developing roller.